# Additamenta ad floram iraquiensem

by

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During the author's stay in Baghdad, as Professor at the University College of Arts and Science, he devoted his leisure hours to the study of the countries vegetation. He collected plant specimens and founded a herbarium to provide a basis for a scientific flora of Iraq. A key for the identification of the plants of Iraq, suitable for students of both schools and colleges, was started as it was his intention to write a book on the phytogeography of the country and another on the plants of Iraq of economic importance.

The investigation of plant communities and collecting of materials was begun with these ends in view.

The author was unable to complete any of these projects, as his contract was not renewed. His notes and materials are thus incomplete. Further, permission was not granted to bring the main part of his collections to Europe for identification.

Nevertheless, as the vegetation of Iraq is but little known, it is intended to publish what he has been able to achieve as it is considered that every contribution to the subject is of value in the study, not only of the flora of Iraq, but of that of the whole Middle East.

The observations concerning the plant geography of the country will be published in other periodicals.

ZOHARY *(The Flora of Iraq and its Phytogeographical subdivisions)* has been followed as regards sequence and nomenclature.

1. **Cheilanthes szowitsii** Fisch. & Mey. ex Hohen. *Enum. Talysch* : 11. 1838 ; Boiss. *Fl. or.* **5** : 726. 1884.

Erbil Liwa, Shaklava, in fissures of rocks on mountain, May 1953, *Regel, Fl. exsicc. iraq. 63.*

A mediterraneo-irano-turanian element, occurring in the mountains of the North. Not quoted until now for the regions of Rawanduz-Erbil.

2. **Ephedra alata** Dec. in *Ann. Sc. nat.* ser. 2, **2** : 239. 1834 ; Boiss. *Fl. or.* **5** : 717. 1884.

Kerbelah Liwa, near Kerbelah, El-Ukhaidir, dry sandy desert, November 1952, *Regel, Fl. exsicc. iraq. 3.*

Plants without fruits and flowers, growing in great quantities in the desert. According to ZOHARY a sub-irano-turanian element.

3. **Potamogeton fluitans** Roth, *Tent. Fl. Germ.* **1** : 72. 1788 ; Boiss. *Fl. or.* **5** : 16. 1882.

Basrah Liwa, Marghil, pond, April 1952, *Regel, Fl. exsicc. iraq. 46.*

ZOHARY quotes the plant only for the region of Sulaimaniya.

4. **Potamogeton lucens** L. *Sp. Pl.* : 126. 1753 ; Boiss. *Fl. or.* **5** : 16. 1882.

Basrah Liwa, Qurna, floating in river Euphrates, March 1953, *Regel, Fl. exsicc. iraq. 47.*

New plant for Iraq, not quoted by ZOHARY.

5. **Setaria glauca** (L.) P. Beauv. *Agrost.* : 51. 1812 ; Boiss. *Fl. or.* **5** : 442. 1884.

Diwaniya Liwa, Diwaniya town, field, November 1952, *Regel, Fl. Fl. exsicc. iraq. 73.*

Quoted by ZOHARY for the region of Rawanduz only. New for southern Iraq.

6. **Stipa barbata** Desf. var. **eu-barbata** Maire & Weiller ex Maire, *Afr. Nord* **2** : 73. 1953.

Sulaimaniya Liwa, dry slope, May 1952, *Regel, Fl. exsicc. iraq. 81.*

According to ZOHARY a sub-irano-turanian element, occurring in deserts and steppes in the North of Iraq.

7. **Glyceria plicata** Fries *Nov. Mant.* **3** : 176. 1842 ; Boiss., *Fl. or.* **5** : 614. 1884.

In the Erbil Liwa, Haji Omran, alt. 2000 m., June 20, 1952, *Regel, Fl. exsicc. iraq. 77.*

BOISSIER quotes the plant for northern Persia, Afghanistan and Transcaucasia. Not quoted by ZOHARY for the flora of Iraq.

8. **Erianthus ravennae** (L.) P. Beauv. *Agrost* : 14. 1812 ; Boiss. *Fl. or.* **5** : 454. 1884.

Near Ramadi and Khanakin the plant grows densely on the river banks.

A mediterraneo-irano-turanian element, occurring in all parts of Iraq.

9. **Phragmites communis** Trin. subsp. **pseudodonax** (Asch. & Graebn. *Synopsis* **2**, 1 : 230. 1900).

Common in all parts of Iraq with all transitional forms from the typical form growing in Europe to the race described by ASCHERSON & GRAEBNER in their *Synopsis*, which seems to be the most common in Iraq. In the marshes of the South the plant forms dense communities. *Regel, Fl. exsicc. iraq. 57.*

10. **Cyperus rotundus** L. *Sp. Pl.* : 45. 1753 ; Boiss. *Fl. or.* **5** : 376. 1882.

Samarrha, Baghdad Liwa, November 1952, *Regel, Fl. exsicc. iraq. 48.*

Very common as weed, a mediterraneo-irano-turanian element quoted in the Jezirah and in the southern part of Iraq.

11. **Scirpus littoralis** Schrad. *Fl. germ.* **1** : 142. 1806 ; Boiss. *Fl. or.* **5** : 383. 1882.

Basrah Liwa, Harmag, pond with salt water, May 1953, *Regel, Fl. exsicc. iraq. 86.*

A mediterraneo-irano-turanian-tropical element, quoted until now only for the region of Dohuk in northern Iraq.

12. **Celtis caucasica** Willd. *Sp. Pl.* **4** : 994. 1805 ; Boiss. *Fl. or.* **4** : 1156. 1879.

Erbil Liwa, Shaklava, in forest on mountain, May 16, 1953, *Regel, Fl. exsicc. iraq. 41.*

An irano-turanian element, occurring in Iraq in the mountains of the North only. Quoted by ZOHARY in the region of the Sinjar.

13. **Rumex thyrsiflorus** Fingerh. in *Linnaea* **4** : 380. 1829.

Erbil Liwa, Haji Omran, weed near way, alt. 2000 m., June 1952, *Regel, Fl. exsicc. iraq. 36.*

An euro-sibirian element, quoted by ZOHARY for the region of Amadia only.

14. **Rheum ribes** L. *Sp. Pl* : 372. 1753 ; Boiss. *Fl. or.* **4** : 1003. 1879.

In oak forest on mountain near Rawanduz, alt. about 1200 m. Specimens collected by *C. Regel* in the Herbarium of the University College of Arts and Science in Baghdad.

An irano-turanian element, quoted by ZOHARY in the region of Sulaimaniya only.

15. **Haloxylon ammodendron** Bunge ex Ledeb. *Fl. ross.* **3**, 2 : 820. 1851 ; Boiss. *Fl. or.* **4** : 948. 1879.

The herbarium of the Agricultural Farm in Abu Chraib near Baghdad (the former Rustam Herbarium) contains a specimen of

*H. ammodendron*, the Saxaul tree, growing in the desert between Ramadi and Samarrha. There is no doubt, that the tree was once growing in greater quantities in Iraq and was destroyed by man. The plant is quoted by BOISSIER for Turkestan and Persia.

16. **Agrostemma githago** L. *Sp. Pl.* : 435. 1753 ; Boiss. *Fl. or.* **1** : 661 (sub *Githago segetum* Desf.) 1867.

Erbil Liwa, Haji, Omran, in fields, alt. 2000 m., June 1952, *Regel.*

New for Iraq, not quoted by ZOHARY and BLAKELOCK. The specimens collected by the writer are in the Herbarium of the University College of Arts and Science in Baghdad.

17. **Nigella sativa** L. var. **brachyloba** Boiss. *Fl. or.* **1** : 68. 1867.

Sulaimaniya, weed in field, May 1952, *Regel, Fl. exsicc. iraq. 76.*

An east-mediterranean element, found until now only in the Jazirah and in the " Lower Mesopotamia " region.

18. **Papaver bornmuelleri** Fedde in *Pflanzenreich*, **4/104**, Heft 40 : 337. 1909.

Erbil Liwa, Salahuddin, meadows under oaks, alt. 1000 m., May 1953, *Regel, Fl. exsicc. iraq. 6.*

The plant is not quoted by ZOHARY, but FEDDE describes in his monograph the plant from Shaklava, that is to say not far from Salahuddin.

19. **Capparis spinosa** L. var. **canescens** Cosson, *Not. Pl. crit.* **2** : 28. 1849 ; Boiss. *Fl. or.* 1 : 420. 1867 = *C. sicula* Du Hamel ex ZOHARY, *Fl. Iraq* : 65. 1950.

Baghdad, Sheikh Omar, desert land, June 11, 1952, *Regel, Fl. exsicc. iraq. 8.*

There are different varieties of *C. spinosa* in Iraq, with transitional forms, some, e.g. in the mountains of Sinjar, with very small leaves. A mediterraneo-irano-turanian element, occurring in all parts of Iraq.

20. **Reseda lutea** L. *Sp. Pl.* : 449. 1753 ; Boiss. *Fl. or.* **1** : 429. 1867.

Mosul Liwa, Amadia, weed, June 1952, *Regel, Fl. exsicc. iraq. 96.*

A sub-mediterraneo-irano-turanian element, occurring in the northern parts of Iraq. The plant is not reported yet from the region of Amadia.

21. **Amygdalus elaeagrifolia** Spach in *Ann. Sci. nat.* ser. 2, **19** : 120. 1843 ; Boiss. *Fl. or.* **2** : 643. 1872.

Erbil Liwa, Rawanduz, shrubs, June 1952, *Regel, Fl. exsicc. iraq. 85.*

An irano-turanian element, quoted by ZOHARY for the region of Sulaimaniya.

22. **Crataegus azarolus** L. *Sp. Pl.* : 447. 1753 ; Boiss. *Fl. or.* **2** : 662. 1872.

Erbil Liwa, Salahuddin, among oaks on mountain, alt. 1000 m., May 16, 1953, *Regel, Fl. exsicc. iraq. 18.*

According to ZOHARY a sub-east-mediterranean element, occurring only on the mountains of the North. New for the region of Salahuddin.

23. **Rubus sanctus** Schreb. *Ic. et Descr. Pl.*, t. 8. 1766.

Mosul Liwa, Amadia, slope near way, June 11, 1955, *Regel, Fl. exsicc. iraq. 19.*

ZOHARY and BLAKELOCK quote the plant only for the northern parts of Iraq, but I found it also in the southern parts, e.g. near Babylon and Baghdad. According to ZOHARY, a sub-mediterraneo-irano-turanian element.

24. **Astragalus spinosus** (Forsk.) Muschler in *Verh. bot. Ver. Prov. Brand.* **49** : 98. 1908 = *Colutea spinosa* Forsk. *Fl. Aeg. Arab.* : 131. 1775 = *A. Forskahlei* Boiss. *Diagn.* **9** : 101. 1849 ; Boiss. *Fl. or.* **2** : 392, 1872.

Mosul Liwa, Tel Afar, desert, April 4, 1953, *Regel, Fl. exsicc. iraq. 65.*

According to ZOHARY, a sub-middle-saharo-sindian element occurring in the desert.

25. **Astragalus emarginatus** Labill. ; Boiss. *Fl. or.* **2** : 246. 1872.

Erbil Liwa, Salahuddin, oak forest on mountain, alt. 1000 m., June 1953, *Regel, Fl. exsicc. iraq. 101.*

New for Iraq, not quoted by ZOHARY. According to BOISSIER the plant grows on the Libanon and on the Hermon. The Herbier Boissier in Geneva contains specimens from the Djebel Baruk and from the mentioned stations — Liban and Hermon. The Herbarium Barbey-Boissier contains specimens from the Herbarium Post labelled " Top of Jebel Banias ". The plant is very near to *A. cretaceus* Boiss. et Kotschy, but differs from it by its longer stalks and the less imbricate leaves. The leaflets are not truncate as in *A. cretaceus.*

26. **Vicia cracca** L. *Sp. Pl.* : 735. 1753 ; Boiss. *Fl. or.* **2** : 585.

Erbil Liwa, Salahuddin, under shrubs of oak, alt. 1000 m., May 15, 1953, *Regel, Fl. exsicc. iraq. 16.*

Mentioned until now only in the region of Rawanduz.

27. **Haplophyllum tuberculatum** (Forsk.) Juss. in *Mém. Mus. Hist. nat. Paris* **12** : 542. 1825 ; Boiss. *Fl. or.* **1** : 939. 1867.

Dulaim Liwa, Lake Habaniya, dry desert, May 1953, *Regel, Fl. exsicc. iraq. 94.*

The plants are slightly tuberous. A saharo-sindian-sudano-decanian element, quoted by ZOHARY in the Western desert.

28. **Rhus coriaria** L. *Sp. Pl.* : 265. 1753 ; Boiss. *Fl. or.* **2** : 4. 1872.

Mosul Liwa, between Dohuk and Zawita, thicket near way. June 1952, *Regel, Fl. exsicc. iraq. 13.*

A sub-mediterranean element. The mentioned station is a new one for Iraq.

29. **Paliurus spina-christi** Mill. *Dict.* ed. 8, *Pal.* : No. 1. 1768 ; Boiss. *Fl. or.* **2** : 13 (sub *Zizyphus*). 1872.

Sulaimaniya Liwa, Sirchinar, fence, May 1952, *Regel, Fl. exsicc. iraq. 14.*

Quoted by ZOHARY only in the region of Rawanduz, but the plant occurs in many other places of the North of Iraq.

30. **Althaea ficifolia** (L.) Cav. *Diss.* **2** : 92. 1793 = *Alcea ficifolia* L. *Sp. Pl.* : 687. 1753 ; Boiss. *Fl. or.* **1** : 83. 1884.

Sulaimaniya Liwa, Penjwin, in field, June 1953, *Regel, Fl. exsicc. iraq. 83.*

Very common in the northern parts of Iraq, on fallows and in fields. Occurring in different colours, red and yellow. An irano-turanian element. A revision of the species as occurring in Iraq would be necessary.

31. **Jussiaea repens** L. *Sp. Pl.* : 388. 1753 ; Boiss. *Fl. or.* **2** : 751. 1872.

Basrah Liwa, Qurna, floating in river Euphrates, May 1953, *Regel, Fl. exsicc. iraq. 59.*

A tropical element occurring in the South of Iraq, sometimes in great quantities.

32. **Limnanthemum nymphoides** (L.) Hoffmgg. & Link, *Fl. Portug.* **1** : 344. 1809 = *Menyanthes nymphoides* L. *Sp. Pl.* : 145. 1753 ; Boiss. *Fl. or.* **4** : 65. 1875.

Basrah Liwa, Qurna, floating in river Euphrates, April 1953, *Regel, Fl. exsicc. iraq. 74.*

New plant for Iraq, not quoted by ZOHARY. Occurring in the marshes of the South.

33. **Nerium oleander** L. *Sp. Pl.* : 209. 1753 ; Boiss. *Fl. or.* **4** : 47. 1875.

Erbil Liwa, between Salahuddin and Erbil, river on the foot of the mountains, *Regel, Fl. exsicc. iraq. 64.*

A representative of the sub-mediterranean element. In the southern parts of Iraq, e.g. in Baghdad, very common in the gardens, where many varieties, with red, white and yellow flowers are cultivated. The wild plant was quoted until now only in the region of Bohuk.

34. **Marrubium astracanicum** Jacq. *Ic. Pl. rar.* **1** : 11. 1781-86 ; Boiss. *Fl. or.* **4** : 695. 1879.

Sulaimaniya Liwa, Pir-a-Makrun, on slope of mountain, under shrubs, near snowfield, June 1953, *Regel, Fl. exsicc. iraq. 62.*

According to ZOHARY, a sub-irano-turanian element, occurring on the mountains of the North. The plant is not quoted yet for the region of Sulaimaniya.

35. **Marrubium cuneatum** Russell, *Nat. Hist. Aleppo*, ed. 2, **2** : 255. 1794 ; Boiss. *Fl. or.* 4 : 703. 1879.

Sulaimaniya Liwa, Pir-A-Makrun, dry slope on mountain, June 1953, *Regel, Fl. exsicc. iraq. 93.*

An irano-turanian element, occurring in the northern parts of Iraq. Not mentioned in the region of Sulaimaniya. The specimens collected on the Pir-A-Makrun are very close to *M. crassidens* Boiss., but the teeth of the calyx are shorter and triform.

36. **Phlomis rigida** Labill. *Ic. Pl. syr.* **3** : 15, t. 10. 1809 ; Boiss. *Fl. or.* **4** : 790. 1879.

Erbil Liwa, Mount Handren near Rawanduz, oak forest on mountain, June 1952, *Regel, Fl. exsicc. iraq. 87.*

An irano-turanian element, occurring in the mountains of the North. ZOHARY does not quote the plant in the region of Rawanduz.

37. **Eremostachys laciniata** (L.) Bunge ex Ledeb. *Fl. ross.* **3** : 439. 1849 = *Phlomis laciniata* L. *Sp. Pl.* : 535. 1753 ; Boiss. *Fl. or.* **4** : 793. 1879.

Erbil Liwa, on mountains in oak forest, from the previous year, without flowers and fruits, collected in 1952.

BOISSIER mentions it in Cilicia, Syria, on the Libanon, in Palestine, Transcaucasia and in the region of the Talysch. The specimens collected by the writer correspond to those in the Herbier Boissier, labelled " Environs de Eden ? ". One has been deposited in the Herbarium of the Conservatoire botanique in Geneva.

38. **Salvia acetabulosa** L. *Mant.* **1** : 25. 1767 ; Boiss. *Fl. or.* **4** : 608. 1879.

Erbil Liwa, Salahuddin, dry meadow with stones, alt. 1000 m., May 1953, *Regel, Fl. exsicc. iraq. 33.*

An irano-turanian element, occurring in the northern parts of Iraq from the plain up to the mountains.

39. **Salvia palaestina** Benth. *Lab. Gen. et Sp.* : 718. 1835 ; Boiss. *Fl. or.* 4 : 614. 1879.

Sulaimaniya, dry slope, June 1952, *Regel, Fl. exsicc. iraq. 91.*

An irano-turanian element, occurring in the northern parts of Iraq, not quoted for the region of Sulaimaniya.

40. **Salvia russelii** Benth. *Lab. Gen. et Sp.* : 312. 1833 ; Boiss. *Fl. or.* **4** : 535. 1879.

Erbil Liwa, Mount Handren near Rawanduz, oak forest, June 15, 1952, *Regel, Fl. exsicc. iraq. 88.*

An irano-turanian element, quoted until now for the region of Dohuk only.

41. **Lycium arabicum** Schweinf. ex Boiss. *Fl. or.* **4** : 289. 1879.

Kerbelah Liwa, El-Ukhaidir, desert, December 8, 1952, *Regel, Fl. exsicc. iraq. 28.*

A new species for Iraq. The plants have no fruits and only very few flowers, but the habitus corresponds to the specimens I saw in the herbarium of the University of Cairo.

42. **Acanthus dioscoridis** L. *Cent.* **2** : 23. 1756 (*Amoen.* **4** : 321) ; Boiss. *Fl. or.* **4** : 521. 1879.

Erbil Liwa, Mount Handren near Rawanduz, in oak forest on the slope, alt. 1000 m., June 15, 1952, *Regel, Fl. exsicc. iraq. 30.*

Only in the mountains of the North of Iraq, but not quoted until now for the region of Rawanduz. An irano-turanian element.

43. **Plantago lanceolata** L. var. **mediterranea** (Kerner) Pilger f. **glabra** Pilger in *Pflanzenreich* **4/269**, Heft 102 : 320. 1937.

Baghdad, Waziriya, desert, among grasses near *Eucalyptus* trees, April 13, 1953, *Regel, Fl. exsicc. iraq. 35.*

44. **Echinops viscosus** DC. *Prodr.* **6** : 525. 1837 ; Boiss. *Fl. or.* **3** : 429. 1875.

Erbil Liwa, Gorge of Rawanduz, June 1952, *Regel, Fl. exsicc. iraq. 84.*

An east-mediterraneo-irano-turanian element, quoted by ZOHARY for the region of Amadia ; BLAKELOCK quotes from the same locality as our plant (Gorge of Rawanduz) *E. bicolor* Nab., first described by Nábělek, but I did not see the specimens collected by the latter.

45. **Centaurea virgata** Lam. var. **squarrosa** Boiss. *Fl. or.* **3** : 651. 1875.

Erbil Liwa, Rawanduz, fields, June 1952, *Regel, Fl. exsicc. iraq. 92.*

An east-mediterraneo-irano-turanian element, occurring in the North of the country.

46. **Taraxacum monochlamydeum** Hand.-Mazz. *Monogr. Gatt. Taraxacum* : 43. 1907.

Baghdad, Adamiya, in garden, April 1953, *Regel, Fl. exsicc. iraq. 23.*

Very common as weed in vegetable gardens, in orchards and on grass places.

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